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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,528	03/15/2004	James E. Owen	SLA1573	1314

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EXAMINER	
KIM, CHONG R	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/800,528	OWEN, JAMES E.	
	Examiner	Art Unit	
	CHARLES KIM	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-15 and 17-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-15,17-25 and 28* is/are rejected.

7)☒ Claim(s) *26 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 25, 2008 has been entered.

Response to Amendment and Arguments

2. Applicant's amendment filed on April 25, 2008 has been entered and made of record.

3. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicant argues that "Overton fail[s] to disclose any notion of determining whether certain pixels are the most unique within a group of pixels, as recited in Applicant's independent claims 1, 10, and 14." (Response, p. 9). The Examiner disagrees. First the Examiner would like to point out that the limitation "most unique" is not clearly defined in the independent claims and therefore, is given its ordinary meaning to mean most different. Under this broad construction, the Examiner notes that Overton discloses determining whether certain pixels are the most unique pixels. For example, Overton, as alluded by Applicant, preserves portions of the image that represent text by determining whether a black pixel is surround on both sides by two white pixels. (col. 1, ll. 1-13). Generally, black pixels are considered to be the most different from

white pixels. For example, in a grey scale image that has 256 levels, white pixels are usually represented by a value 0 and black pixels are represented by a value 256, or vice versa. Hence, because a black pixel is the most different from a white pixel, Overton's step of determining whether a black pixel is surround by two white pixels is construed as determining the most unique, i.e., most different pixel.

The Examiner notes however, that Overton could be overcome by amending the independent claims to specify what "most unique pixel" means. For example, adding the subject matter of either claim 26 or 27 to each of the independent claims would appear to overcome the Overton reference. However, if Applicant chooses to do so, Examiner would like to point out that claims 4, 8, 17, and 21 may become indefinite due to its inconsistency with claims 26 and 27. In particular, claims 26 and 27 recite comparing each pixel with surrounding pixels, while claims 4 and 17 recite comparing each pixel with pixels not in the group of pixels, i.e., not surrounding the pixels. Moreover, claims 8 and 21 recite comparing each pixel with one pixel, which is also inconsistent with the comparison of multiple pixels, as recited in claims 26 and 27.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6, 10, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Overton, U.S. Patent No. 5,838,838 (hereinafter "Overton").

Regarding claim 1, Overton discloses a method for scaling a first bitmap from a first size to a second size, the method comprising:

accessing a first bitmap [col. 3, ll. 45-53];

iterating through the first bitmap and performing the following until no more size reductions are needed to scale the first bitmap to the second size [figures 1-2]:

identifying a group of pixels from the first bitmap, [col. 3, ll. 61-col. 4, l. 15 and step 4 in figure 1];

identifying a unique pixel or unique pixels in the group of pixels, wherein the unique pixel or pixels comprises the most unique pixel or pixels [col. 3, l. 61-col. 4, l. 15 and step 4 in figure 1. Note that a black pixel surrounded by two white pixels is construed as the most unique pixel in the group of pixels]; and

copying one or more pixels including the unique pixel or the unique pixels from the group of pixels to a second bitmap, wherein the one or more pixels copied from the group of pixels to the second bitmap are not altered or transformed such that a new pixel is not created, and wherein one or more pixels are not copied to the second bitmap and are not the unique pixel or pixels [col. 3, ll. 61-67 and figures 1-2. Note that for the group of pixels that are part of the unique pixels, step 5 deletes selected pixels from the group to achieve a desired horizontal scaling. The remaining undeleted pixels are subsequently copied from the group of pixels to a second bitmap. As figure 2 illustrates, these copied pixels are not altered or transformed such that a new pixel is not created. In addition, Overton further explains that pixels that are part of the picture (i.e., not unique pixels) are also deleted and therefore, not copied to the second bitmap.].

Regarding claims 6, Overton further discloses that the first bitmap and the second bitmap are different bitmaps, and wherein the second bitmap comprises copies of pixels from the first bitmap that have not been altered or transformed [figures 1-2].

Regarding claim 10, see the rejection of at least claim 1 above. Overton further discloses a computer device configured to execute the method of claim 1 [figure 10].

Regarding claim 14, see the rejection of at least claim 1 above. Overton further discloses a computer readable medium that performs the method of claim 1 [figure 10].

Referring to claim 25, Overton further discloses that the first bitmap is a monochrome bitmap and the most unique pixel is a least common pixel within the group [col. 3, l. 61-col. 4, l. 15 and step 4 in figure 1. As noted above (claim 1), a black pixel surrounded by two white pixels is construed as the most unique pixel in the group of pixels. The Examiner notes that this same black pixel is also considered the least common pixel since it is the only black pixel within the group of three pixels that are analyzed.].

5. Claims 1, 10, 14, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by the article entitled "Encoding of colour images using adaptive decimation and interpolation" by Tsang et al. (hereinafter Tsang).

Regarding claim 1, Tsang discloses a method for scaling a first bitmap from a first size to a second size, the method comprising:

accessing a first bitmap [pp. 51-52 section 2.2];

iterating through the first bitmap and performing the following until no more size reductions are needed to scale the first bitmap to the second size [pp. 51-52 section 2.2]:

identifying a group of pixels from the first bitmap, [pp. 51-52 section 2.2];

identifying a unique pixel or unique pixels in the group of pixels, wherein the unique pixel or pixels comprises the most unique pixel or pixels [pp. 51-52 section 2.2. Note that the "only pixels at sharp changing points of an intensity curve" are construed as the most unique pixels.]; and

copying one or more pixels including the unique pixel or the unique pixels from the group of pixels to a second bitmap, wherein the one or more pixels copied from the group of pixels to the second bitmap are not altered or transformed such that a new pixel is not created, and wherein one or more pixels are not copied to the second bitmap and are not the unique pixel or pixels [pp. 51-52 section 2.2. Note that only the most unique pixels--pixels at sharp changing points of an intensity curve--are sampled and therefore copied to a second bitmap].

Regarding claim 10, see the rejection of at least claim 1 above. Tsang further discloses a computer device configured to execute the method of claim 1 [section 5].

Regarding claim 14, see the rejection of at least claim 1 above. Tsang further discloses a computer readable medium that performs the method of claim 1 [section 5].

Referring to claim 28, Tsang further discloses that the first bitmap is a color bitmap and a uniqueness of a pixel is based on a comparison between a sum of color components of the pixel and at least one sum of color components of at least one surrounding pixel [p. 52-53, see equation 3 and section 4].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 4, 11-13, 15, 19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Overton and Suzuki et al. U.S. Patent No. 5,754,698 (hereinafter "Suzuki").

Regarding claims 2, 11, and 15, Overton does not explicitly disclose comparing each pixel in the group of pixels to a comparison set in order to identify the unique pixel or pixels. However, this feature was exceedingly well known in the art. For example, Suzuki teaches comparing each pixel in the group of pixels to a comparison set in order to identify the unique pixel or pixels (the "Sub-sampling patterns" are a method of determining which pixels to decimate based on a comparison, Suzuki Figure 15).

It would have been obvious to one of ordinary skill in the art to apply the comparing step of Suzuki to the decimation method of Overton. The reason for doing so would have been to enhance the flexibility of the downscaling process.

Regarding claim 4, Suzuki further teaches that the comparison set is not in the group of pixels (The patterns of Suzuki Figure 15 are not included in the original image).

Regarding claims 12, 19, and 23, Overton further teaches that the first bitmap and the second bitmap are different bitmaps, and wherein the second bitmap comprises copies of pixels from the first bitmap that have not been altered or transformed [figures 1-2].

Regarding claim 13, Overton further teaches saving the second bitmap [figures 1-2

7. Claims 5, 7-9, 17, 18, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Overton, Suzuki, and Scott et al., U.S. Patent No. 5,097,518 (hereinafter "Scott").

Regarding claim 5, Overton and Suzuki do not teach that the group of pixels comprises the comparison set.

Scott teaches comparing a group of pixels to an adjacent group of pixels to make decimation decisions (Scott Figure 8 "Next Pixel Position Register" in the "Horizontal Reduction Scaler").

It would have been obvious at the time of invention to one of ordinary skill in the art to use the next pixels to make decimation decisions as taught by Scott in the image scaling method of Overton and Suzuki in order to enhance the flexibility of the downscaling process.

Regarding claims 7 and 20, Overton and Suzuki do not teach that the comparison set is adjacent to the group of pixels.

Scott teaches comparing a group of pixels to an adjacent group of pixels to make decimation decisions (Scott Figure 8 "Next Pixel Position Register" in the "Horizontal Reduction Scaler").

It would have been obvious at the time of invention to one of ordinary skill in the art to use an adjacent pixel block as taught by Scott to make decimation decisions in the method of Overton and Suzuki in order to enhance the flexibility of the downscaling process.

Regarding claims 8 and 21, Overton, Suzuki, and Scott teach the method wherein the comparison set comprises one pixel (Scott Figure 8 "Next Pixel Position Register" in the "Horizontal Reduction Scaler" operates on single pixels).

Referring to claim 9, see the discussion of claim 24 below.

Regarding claim 17, Overton, Suzuki, and Scott teach a comparison set not in the group of pixels (The patterns of Suzuki Figure 15 are not included in the original image).

Regarding claim 18, Overton, Suzuki do not teach the computer medium wherein the group of pixels comprises the comparison set.

Scott teaches comparing a group of pixels to an adjacent group of pixels to make decimation decisions (Scott Figure 8 "Next Pixel Position Register" in the "Horizontal Reduction Scaler").

It would have been obvious at the time of invention to one of ordinary skill in the art to use an adjacent pixel block as taught by Scott to make decimation decisions in the method of Overton and Suzuki in order to enhance the flexibility of the downscaling process.

Referring to claim 22, Suzuki further discloses that the comparison set comprises a plurality of pixels [figure 15].

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Overton, Suzuki, and Morley et al., U.S. Patent Application Publication No. 2002/0186765 (hereinafter "Morley").

Regarding claim 24, Overton and Suzuki does not explicitly disclose that the first bitmap and second bitmap are the same bitmap for in-place scaling. However, this feature was exceedingly well known in the art. For example, Morley discloses a first bitmap and the second bitmap that are the same bitmap for in-place scaling (Morley Figures 4A-4C show in place decimation).

It would have been obvious to one of ordinary skill in the art to include the teachings of Morley in the method Overton and Suzuki. The reason for doing so would have been to enhance the flexibility of the downscaling process.

Allowable Subject Matter

9. Claims 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Zheng U.S. Patent No. 6,453,074 discloses a system for image decimation including selective filtering that performs filtering based on the busyness of the spatial fernery content surrounding a target pixel (col. 5, ll. 30-44)

b. De Vogel U.S. Patent No. 6,216,144 discloses an adaptive decimation process that copies only transition pixels (fig. 2)

c. Li U.S. Patent Application Publication No. 2004/0076328 discloses a method for classifying pixels that includes determining a difference between a target pixel and the average of its surrounding pixels to determine whether a peak or valley exists (par. 16)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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